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MAP RESEARCH BULLETIN

MR - 23

MARCH 1951

CENTRAL INTELLIGENCE AGENCY

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MAPS

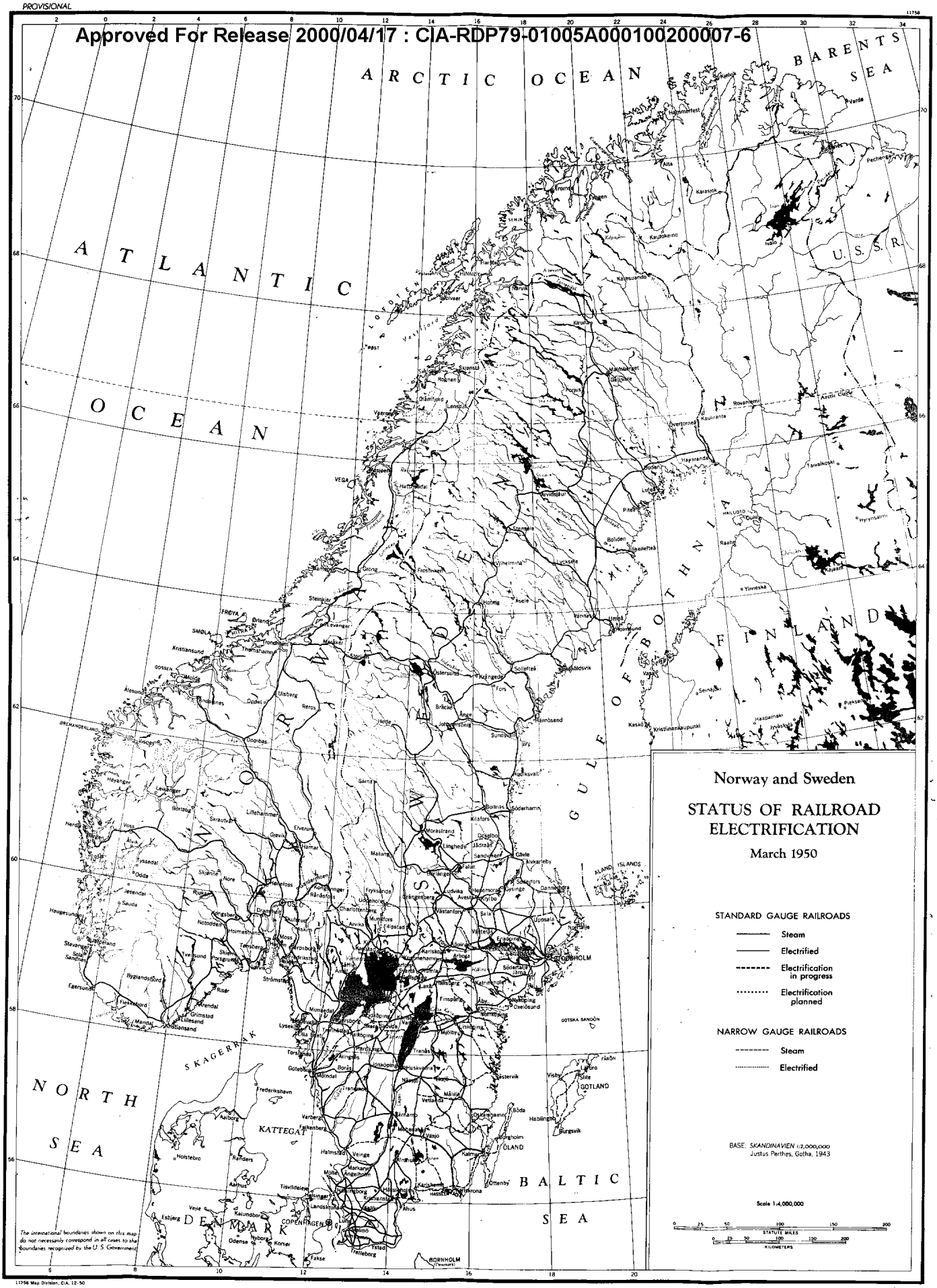
I. NORWAY AND SWEDEN: RAILROAD SITUATION

Electrification

For both economic and strategic reasons Norway and Sweden have intensified their programs of railroad electrification since World War II. In both countries, however, the progress of electrification has been retarded by difficulties such as the expense involved in replacing damaged or worn-out equipment and in purchasing the supplies needed for new construction. The accompanying map (CIA 11758) of Norwegian and Swedish rail nets, including the four connecting lines, shows as of 1950 the electrified railroads, those being electrified, and lines scheduled for electrification in the near future. No distinction is made between government and privately owned railroads because of the small privately owned mileage lines in Norway and the rapidity with which the Swedish government in acquiring private lines.

From a strategic point of view electrification is of value chiefly because it makes the railroads less dependent upon foreign coal. During World War II, reduction of the coal supply, which was coincident with a shortage of gasoline, placed the burden of internal transport on those railroads that had already been electrified.

NOTE: This Bulletin has not been coordinated with the intelligence organizations of the Departments of State, the Army, the Navy, and the Air Force.



Norway and Sweden

STATUS OF RAILROAD ELECTRIFICATION

March 1950

STANDARD GAUGE RAILROADS

- Steam
- Electrified
- Electrification in progress
- Electrification planned

NARROW GAUGE RAILROADS

- Steam
- Electrified

BASE: *SKANDINAVIEN* 1:2,000,000
Justus Perthes, Gotha, 1943

Scale 1:4,000,000

0 25 50 100 150 200 STATUTE MILES
0 25 50 100 150 200 KILOMETERS

L1758 Map Division, CIA, 12-50

CIA Reproduction

From the economic point of view, by utilizing a cheap and abundant national resource -- hydroelectric power -- electrification reduces the need for importing coal, which involves problems of foreign exchange. It also increases the traffic capacity of existing lines by raising the average speed and by using locomotives that are notably more efficient than steam locomotives, especially in very cold weather. On the line between Narvik and Luleå that was electrified between 1910 and 1923, the size of ore trains was increased by about 40 percent and their speed doubled. As a result of the greater traffic capacity, some lines that would have required double tracks if the use of steam had been continued are able to carry the present traffic load on a single-track electrified line. The soundness of the electrification program was proved during the period 1939-45, when electrification is estimated to have saved the Swedish State Railroads a sum exceeding the entire capital cost of all electrification prior to 1947 on the basis of a comparison of the cost of electric traction with the estimated cost of steam operation.

Railroads in Norway

Norway has a low density of railroad trackage, owing chiefly to the high cost of building and maintaining a network of railroads over rugged terrain where there are frequent snowfalls and the ground is covered with heavy snow during much of the year. Because of the unproductive areas in the interior of the country and the peripheral distribution of population Norway has traditionally relied on coastal shipping as a means of communication, and the development of a good railroad network has lagged. Private enterprise, except in a few cases, has not found it profitable to construct

and operate railroads in Norway. The rail net, even in combination with supplementary means of transportation, such as motor vehicles, aircraft, and the coastal vessels, is not extensive enough to serve the needs of the country.

The government-owned Norges Statsbanen (NSB -- Norwegian State Railroads) operate 4,392 kilometers of railroads, comprising over 98 percent of the country's railroad trackage. In spite of the abundance of hydroelectric power in Norway, only about one-fifth of the railroad mileage is electrified. Nevertheless, 40 percent of all rail traffic in Norway is carried over the electrified lines. The electrification program is proceeding as fast as budgets will permit, but conversion has so far been confined to the southern part of the country.

The four most important private companies together operate only 81 kilometers of railroad, of which 41 kilometers (operated by the Løkken-Thamshamn Railway and the Rjukan-Mael Railway) are electrified.

Most of the system consists of single-track lines . The only double-track lines are in the vicinity of Oslo. Of the NSB lines, 117 kilometers are narrow gauge, but a program has been adopted for converting them to standard gauge.

At peak season the Norwegian railroad system has not been able to handle all of the traffic demands with complete satisfaction. Nevertheless, increased efficiency of operation and intensive utilization of serviceable equipment have enabled it to carry progressively more passengers and freight, despite the deteriorated condition of the road-bed, rails, and rolling stock, and the inadequacy of repair and terminal facilities.

In the last few years important progress has been made in overcoming some of these weaknesses, but the railroads still face serious handicaps. One of the greatest obstacles to more efficient operation is the difficulty of overhauling and maintaining the steam locomotives, most of which are very old. The NSB must overhaul, repair, and maintain a stock of parts for 57 different types of locomotives. Because of a shortage of vital repair parts, a large number of passenger and freight cars as well as locomotives are lying idle in the shops. In general, there are fewer difficulties in maintaining electric locomotives.

Railroads in Sweden

Railroads are relatively more important to Sweden than to Norway. Most of the Swedish system has now been nationalized. Before 1930 it was the basic policy for the government to own and operate trunk lines, while private companies, with government support, developed feeder lines. During the past 20 years, however, the Statens Järnvägar (Swedish State Railroads) have vigorously followed a policy directed toward ultimate acquisition of nearly all private railroad lines.

By August 1950, only 1,754 kilometers of the 16,781 kilometers of track were privately owned. Nearly 6,000 kilometers of state-owned and 410 kilometers of privately owned track were electrified. Although less than 40 percent of the state-owned railroads is electrified, 85 percent of all traffic on these roads is carried over electrified track. The Swedish Railway Board has worked out a comprehensive program for the electrification of over 1,125 kilometers of track, but because of the short supply of labor and materials it is not possible to predict when work can be completed. Only

4 percent of state-owned lines and 1 percent of privately owned lines are double-track.

Before World War II the Swedish railroad system was generally adequate for domestic needs. During the war, however, neither maintenance nor expansion could keep pace with the heavier demands. Much of the rolling stock is now overage, but, because no war damage was inflicted, it has been possible to keep it in fairly good condition according to European standards. The roadbeds of many of the main lines are in such poor condition that new equipment, such as postwar electric streamlined locomotives, cannot be operated at rated speeds. Other, more basic difficulties stem from the natural characteristics of the terrain and from the type of construction of the old lines, which were designed for slower traffic.

The expense of railroad operation has increased since the war because manually operated equipment has had to be used to replace worn-out automatic facilities and equipment. This situation may eventually be corrected either by increased imports of equipment and tools from the United States or by the increased manufacture of such equipment in Sweden. Planned extensions, installation of double tracks, and replacement of worn rails also have been held up. Larger allocations of steel for rail production have now been granted. The problem of low domestic rail production remains to be solved. The Swedes have been reluctant to import German rails because of their high price and doubt as to their ability to withstand the extremely low temperatures of the north.

II. FRENCH SERIALS OF INTEREST FOR MAP RESEARCH

A large number of periodicals of interest to geographers and map makers are currently being published in France. Some of these are new publications; others are periodicals of long standing whose publication was interrupted by World War II and has only recently been resumed. This article presents the findings of a recent survey of 90 current French serials. Additional information on any of the publications and on the character, currency, and reliability of the maps they contain is available from the Map Intelligence Branch of the CIA. Most of the serials are available in U. S. Government libraries, chiefly the Library of Congress and the libraries of the Geological Survey and the Department of State.

The periodicals vary greatly both as to subjects and areas covered, but practically all contain reliable and up-to-date small-scale special-subject maps that illustrate the articles. Many of the serials are concerned only with geography, others with related subjects; a few cover all parts of the world, some France alone or a part of France; and a large number are concerned mainly with French overseas areas. In addition to these, several statistical and bibliographical periodicals are of continuing interest as sources of basic information.

The two periodicals of greatest general interest are Acta Geographica and Annales de Géographie. Acta Geographica is the official organ of the Societe de Geographie de Paris and contains news of the society's activities, reviews of geographical publications, and bibliographies. The Annales de Géographie contains scholarly articles by the most eminent French geographers

on a wide range of subjects and areas. For example, recent issues contain articles on rice culture in western Africa, the northward expansion of mining in the Province of Quebec, and human and economic geography of the Black Forest. Special sections are devoted to notes, book reviews, and summaries of significant geographic articles in other publications.

A third periodical of general interest, but not concerned specifically with geography, is Notes et Études Documentaires, published in several series by the Directorate of Documentation. Série Outre-Mer contains separate issues on individual overseas members of the French Union. Other series are on world economics, sociology, finance, and political affairs.

Other serials are of more specific interest to teachers of geography, cartographers, or specialists in some particular field of geography. Among these is Mémoires et Documents, published by the Cartographic and Geographic Documentation Center. Volume 1 contains a 30-page list of cartographic, bibliographic, and photographic references on Canada. This group of serials also includes: Bulletin de l'Association de Géographes Français, Bulletin de la Société des Professeurs d'Histoire et de Géographie de l'Enseignement Public, and L'Information Géographique. For geographers specializing in human studies, the following periodicals are of special interest: Le Mois d'Ethnographie Française; Revue de Psychologie des Peuples; Annales - Économies - Sociétés - Civilisations, published by A. Colin; Population, Revue de l'Institut National d'Études Démographiques; and Revue de Géographie Humaine et d'Ethnologie. The January-to-March 1948 issue of the last publication contains an article on the cartographic work

of the French Ministry of Reconstruction, which has published over 2,000 town plans of France in the last decade.

French periodicals on subjects related to geography are numerous and varied. Each of the broad related fields of agronomy, agriculture, forestry, hydrology, hydrography, geology, geodesy, anthropology, meteorology, topography, oceanography, biogeography, economics, and geomorphology has its individual journal. There also are special publications for such specific features as bridges, caves, mountains, ports, railroads, and towns.

Special bibliographic serials are available on cartography, geography, meteorology, and geology. Some six statistical publications are available for general reference purposes.

A number of French periodicals are devoted exclusively to limited areas within France. Most of these are issued by local geographic societies. Among the sections of France for which there are special geographic publications are Normandy, the Pyrenees, Languedoc, Alsace-Lorraine, and the cities and environs of Lyon, Poitiers, Toulouse, Paris, Dunkirk, Marseille, and Lille. An example of these regional publications is the Revue de Géographie de Lyon, a bulletin issued jointly by the Société de Géographie de Lyon and the Universite de Lyon that contains articles about the basin of the Rhône River and the Lyon region.

Articles on the overseas areas of the French Union are included in a variety of publications. Some cover geographical subjects in general, and others use a topical approach. Examples of the two types are Cahiers Coloniaux de l'Institut Colonial de Marseille and Études at Conjonctures, Union Française, respectively. The latter specializes in economic articles

on the French Union. All French colonial interests on a single continent are covered by a few publications (L'Asie Française and L'Afrique Française). The specific interests of smaller areas are presented in Bulletin de la Société des Études Indochines and La Revue de Madagascar. There are special publications focused on French territorial and trade interests in ocean areas. Articles on the Pacific area are to be found in Bulletin de la Société des Études Océaniennes (Polynésie Orientale), and on the Atlantic in Les Cahiers d'Outre-Mer.

Most of the French periodicals on areas other than France deal chiefly with French interests in the area. Two notable exceptions, however, are Économie Soviétique et Économies Planifiées and Journal Asiatique, both of which are general publications on the areas covered.

These current French geographical publications with their accompanying maps are a major source of up-to-date information. Because of the variety of subjects and wide range of areas covered, the serials are basic tools for American geographers and map makers.

III. BRIEF NOTICES

A. Soviet Authorities Tighten Control over Polish Mapping

The Soviet Union has recently assumed a dominant role in the control of Polish map compilation and distribution. In November 1949, shortly after Marshal of the Soviet Union K. Rokossovskiy assumed his duties as Marshal of Poland and Minister of National Defense, an order was issued transferring important Polish map compilation and publication to unspecified locations within the USSR. Thus such official map compilation agencies as the Wojskowy Institut Geograficzny (Military Geographic Institute) were deprived of their compilation and publication functions and will serve henceforth merely as data-collecting and collating units for Soviet mapping agencies. Shortly after the above order was issued, another was passed which removed many types of Polish maps from public sale.

B. Extension of USSR Railroad to Vale, near the Turkish Frontier

The existence of an additional Soviet railroad line to the USSR-Turkish border has been noted in recent Soviet literature. The line is a 65-kilometer extension of the Borzhomi (41°51'N, 43°23'E) -- Khashuri (41°59'N, 43°36'E) line, which branches southwestward from the Baku-Batumi trunk route. The extension continues from Khashuri through Akhaltsikhe (41°38'N, 42°59'E) and terminates at Vale (41°37'N, 42°52'E), about 5 kilometers from the Turkish border. This is the only Soviet railroad extending to the proximity of the border between Batumi, on the Black Sea, and Leninakan (40°48'N, 43°50'E), a distance of about 130 kilometers.

The dates of construction and completion of the extension are not known, and previously available Soviet information on the subject has been confusing. The existence of the line from Borzhomi to Akhaltsikhe has been indicated on only one source -- Russland (Kaukasus), 1:200,000, Sheets K-38-XIX and XX (CIA Call No. 9626), which is a wartime German revision of a Soviet map. Nearly all of the available postwar Soviet sources fail to show any information on the line between Borzhomi and Vale. One 1947 Soviet map (reprinted as Union of Soviet Socialist Republics, CIA 11043), however, shows the Borzhomi-Akhaltsikhe part of the line as under construction. No Soviet maps show the Akhalsikhe-Vale stretch.

It is worthy of note that the terminus of the new line, Vale, with a population of more than 2,000 people, was formerly classified in the Soviet territorial-administrative system as a "rural" settlement. By 1949 its status had been changed to "urban type" settlement, The change suggests that some sizable nonrural development had been established in or near Vale which required either the importation of additional urban labor or the conversion of local rural laborers into urban laborers.

C. The First Fifty Years of Egyptian Mapping

The Survey of Egypt, in commemoration of the fiftieth anniversary of its founding, has recently published The Survey of Egypt 1898-1948. The volume was compiled from official sources and edited by G. W. Murray, Technical Expert to the Topographical Survey, and contains an account of the development of the Survey and its contributions to the Allied war

effort. Copies of the publication are available at the Army Map Service Library, the Library of Congress, and the CIA Map Library.

The text is divided into the following 13 chapters, each of which describes a particular office or function of the Survey:

I. The Administrative Services

II. The Cadastral Survey -- The First Cadastre

III. The Cadastral Survey -- Land Registration

IV. The Cadastral Survey -- The Second Cadastre

V. The Cadastral Survey -- Special Surveys

VI. The Desert Survey -- (1920-1937)

VII. The Topographical Survey

VIII. The Computation Office

IX. The Geodetic Survey

X. The Reproduction Offices

XI. The Design and Printing of Stamps

XII. The Map Rooms

XIII. The Geological Survey

The following lists of publications of the Survey are appended:

I. Survey of Egypt Publications

II. Survey Department Papers and Survey Department Technical Lectures

III. Lists of Benchmarks

IV. Publications of the Geological Survey of Egypt

V. Petroleum Research Bulletins

VI. Helwan Observatory Bulletins

D. UN Coal and Iron Ore Studies in Southeast Asia

Report on Coal and Iron Ore Studies, United Nations, Economic Commission for Asia and the Far East, Committee on Industry and Trade, Second Session, Bangkok, 9 May 1950.

This publication describes the coal and iron ore deposits in southeastern Asia and summarizes the current status of topographic and geologic surveys. The report is based on data available in the UN Secretariat plus information obtained by field representatives to the Federation of Malaya and Singapore, Indonesia, India, Pakistan, Burma, Ceylon, Indochina, and Thailand.

Included in the report are 18 maps, mostly at scales between 1:4,000,000 and 1:10,000,000. Eleven are sketch maps that show the locations of coal and iron ore deposits of each country. In the cases of Ceylon and Thailand, this information is superimposed on a sketch map of the areal geology. Five other maps show the status of geological surveys in Burma, India, Indochina, Indonesia, and Malaya. For Indochina, this information is overprinted on a sketch map of the areal geology. The remaining two maps give the extent of topographic surveys in Burma and Indonesia.

The text describes for each country the current status of an plans for topographic and geologic surveys, as well as the extent and location of known coal and iron ore deposits. A final section summarizes the possibilities of coal and iron ore production, the technological capabilities of native personnel, and the needs for technical assistance from outside the region.

This report is a useful collection of information, although the accuracy of some of the data is doubtful. Several statements on ore reserves are based only on reconnaissance surveys made during the early twentieth century. Some of the data on the extent of topographic map coverage are not substantiated by any other available information.

E. Distribution of the Population of the Union of South Africa

The distribution of the population of the Union of South Africa can be plotted in greater detail than heretofore from statistics in Volume I of the recently published Seventh Census of 7 May 1946, Geographical Distribution of the Population of the Union of South Africa. The volume is available in the reference libraries of the Department of State and CIA.

The 1946 census defines four types of areas as follows:
(a) Provinces. The Union of South Africa consists of four provinces -- the Cape of Good Hope, Transvaal, Orange Free State, and Natal. Statistics for the Cape of Good Hope and Natal include figures for the predominantly native Transkeian Territories and Zululand. (b) Magisterial Districts. Although the magisterial district is primarily a subdivision of the Union for judicial administration, in practice it serves as a unit for most other types of local administration. At the time of the census there were 257 such districts. Walvis Bay is legally a detached part of the Cape of Good Hope, but for convenience it is listed as a separate unit. (c) Urban Areas. All towns and villages that have some form of local government constituted under law are classified as "urban." (d) Rural Areas. The entire

area outside the jurisdiction of the various urban areas is classified as "rural". Farms and native reserves comprise most of the rural area, but rural townships and suburbs that have no form of local government are also included.

Volume 1 includes a base map showing provincial and magisterial district boundaries as of the census date. Although the map is at too small a scale to show the "urban" and "rural" areas in detail, most of the data can be plotted by these units on larger-scale maps. Some of the 22 types of cultural and minor political areas listed, however, do not coincide exactly with the urban and rural areas listed. Most of the exceptions are mining and industrial compounds.

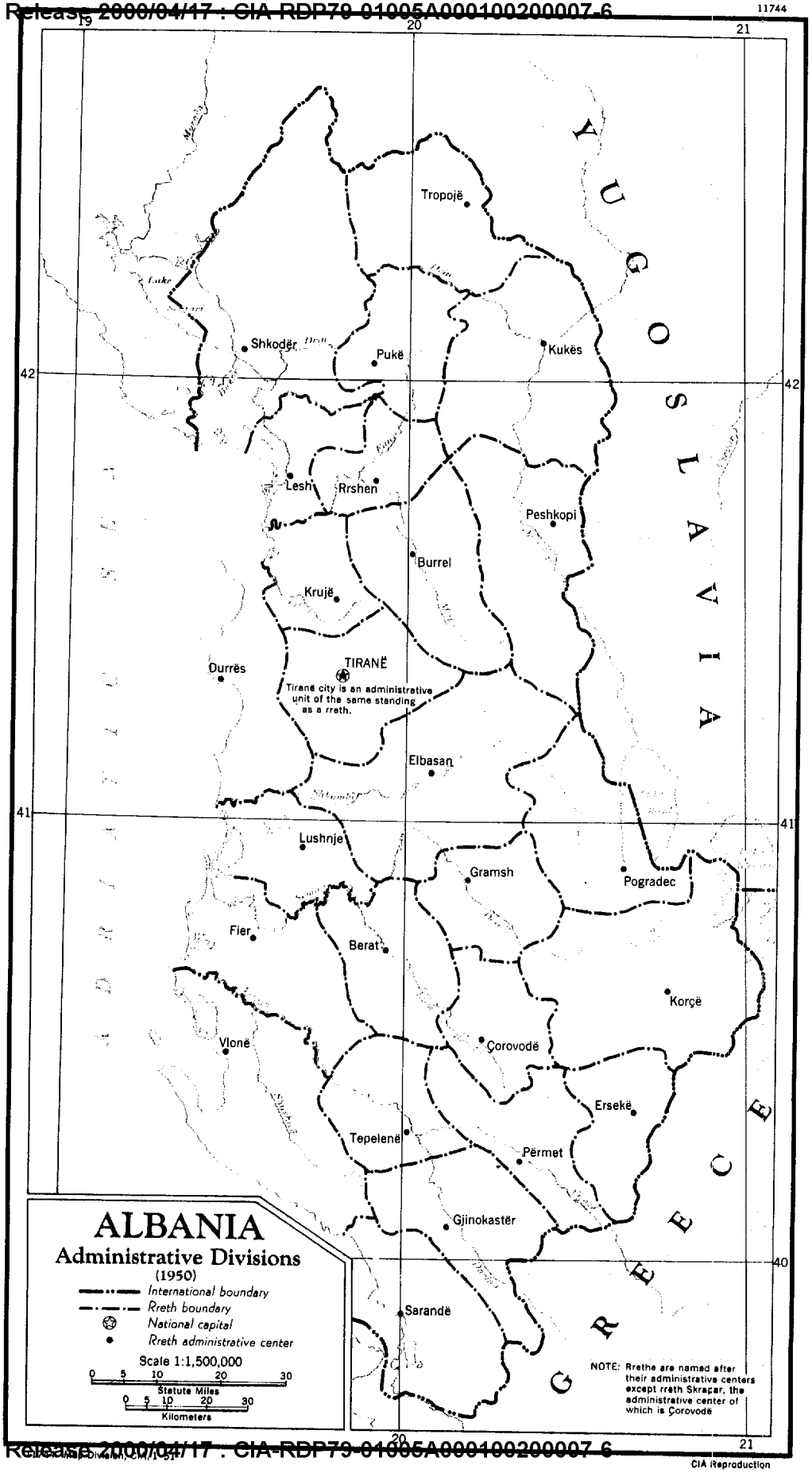
The magisterial district is the primary unit for census enumeration. A significant feature of the 1946 census is the method employed for presenting comparative data from the censuses of 1921 and 1936. In the 1946 census volumes, the older magisterial district boundaries have been adjusted to conform with those of 1946. Thus, in all cases, the figures for the magisterial districts for 1946, 1936, and 1921 are comparable.

F. Albanian Administrative Divisions

By a decree of 12 March 1949 the Albanian People's Assembly established a new administrative system for the country. The system, which is modeled on a small scale after the Soviet pattern, provides for three orders of administrative divisions, with two types of first-order units and three of second-order.

There are now 26 first-order administrative divisions in Albania, of which 25 are districts (rrethe) and one is a city (qytet) -- Tiranë. The second-order divisions, totaling 186, are: cities (qytete), cities and their environs or neighboring villages (rajone qytetesh), and localities (lokalitete). Localities are made up of groups of villages having a total population of about 5,700. The average distance between the center and each of the other villages of the locality is about four miles or two hours travel on foot. The third-order administrative divisions are the villages (fshatra), of which there are about 2,600.

The accompanying map (CIA 11744) shows the first-order divisions of Albania. It is based on a list of villages grouped by rrethe, which was published in Zeri i Popullit of 25 March 1950. The boundaries were drawn simply by enclosing the villages listed for each rreth. Consequently, the boundaries may err in detail, but the core area of the rreth is correct in all cases. Information for locating the second-order divisions is not available.



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